



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.                        | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/786,299                             | 02/26/2004  | Brent A. McClure     | M4065.0984/P984     | 3439             |
| 24998                                  | 7590        | 08/10/2005           | EXAMINER            |                  |
| DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP |             |                      | LEE, CALVIN         |                  |
| 2101 L Street, NW                      |             |                      | ART UNIT            |                  |
| Washington, DC 20037                   |             |                      | PAPER NUMBER        |                  |
|  |             |                      | 2818                |                  |

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

|                              |                               |                                   |  |
|------------------------------|-------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/786,299 | Applicant(s)<br>MCCLURE, BRENT A. |  |
|                              | Examiner<br>Lee, Calvin       | Art Unit<br>2818                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.  
 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 and 39-43 is/are pending in the application.  
     4a) Of the above claim(s) 22-38 is/are withdrawn from consideration.  
 5) ☒ Claim(s) 11-21 is/are allowed.  
 6) ☒ Claim(s) 1-10 and 39-43 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 2/26/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## FINAL ACTION

### *Response to Amendment*

1. The amendment of claim 1 and the addition of claims 39-43, dated July 14, 2005, are acknowledged. Moreover, claims 22-38 have been canceled.

### *Claim Rejections - 35 U.S.C. § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 (e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 5-10, 39, and 41-43 are rejected under 35 U.S.C. 102(e) as anticipated by *Rhodes*

a) *Rhodes* (US 2005/0023553) discloses a method of forming a contact in a pixel sensor cell -depositing a passivation layer 55 over a substrate 20 having pixel components [¶ 0009 & 0064]; -inherently forming a slot or hole in the passivation layer in an area over a charge collection region 21 of the pixel sensor cell [Fig. 2]; -implanting a dopant at an angle relative to sidewalls of the slot through said slot into the charge collection region 126 [Fig. 7], wherein the dopant is implanted into the substrate at an energy of about 1KeV to 100 KeV [¶ 0061] at an angle of about 0 to 30° [¶ 0059] relative to the sidewalls; -and forming a contact 32 within the slot [Figs. 15-16 and ¶ 0071].

b) In re claims 9 and 43, *Rhodes* indirectly suggests the dopant being implanted at an implant depth of about 10 to 3000Å, which is the thickness of the insulating layer 121 [Fig. 9 and ¶ 0046].

### *Claim Rejections - 35 U.S.C. § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rhodes*.

a) In re claims 2-3 and 40, *Rhodes* suggests the slot having a circle shape [Figs. 14-15] but not an oblong (or elliptical) shape.

It would have been an obvious matter of design choice to have the claimed slot shape, since such a modification would have involved a mere change in the size of a hole or slot. A change in size is generally recognized as being within the level of ordinary skill in the art.

b) In re claim 4, *Rhodes* discloses a slot or hole in a passivation layer [¶ 0064] but is silent about an aspect ratio having a range of about 10:1 to 5:1.

It would have been an obvious matter of design choice to have the claimed aspect ratio, since such a modification would have involved a mere change in the size of a hole or slot. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

#### ***Allowable Subject Matter***

6. Claims 11-21 are allowed because the reference *Rhodes* does not suggest a blocking layer extending over a portion of a charge collection region of a pixel sensor cell.

#### ***Response to Arguments***

7. Applicant's argument "there is no disclosure in *Rhodes* that this implant occurs through a slot in an insulating layer" is unpersuasive. *Rhodes* '553 [Fig. 2 and ¶ 0009] clearly teaches or suggests the implant occurring through a slot in the insulating layer 55.

Applicant also argued that *Rhodes* does not teach or suggest forming a contact ... in electrical connection to said doped area. The Examiner notes that the charge collection region 326 comprising the doped area is in electrical contact to an interconnect 32 [Figs. 15-16].

Note in the above rejections, the specific portions of *Rhodes* have been pointed out in detail. Therefore, a rejection above has been made FINAL because the claim1 has been amended and claims 39-43 have been added.

8. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire three months from the mailing date of this action. In the event a first reply is filed within two months of the mailing date of this final action and the advisory action is not mailed until after the end of the three-month shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than six months from the date of this final action.

*Contact Information*

9. Any inquiry concerning this communication from the Examiner should be directed to *Calvin Lee* at (571) 272-1896 on Mondays thru Thursdays 6:30-4:30PM. If attempts to reach the examiner by telephone are unsuccessful, Art Unit 2818's Supervisory Patent Examiner *David Nelms* can be reached at (571) 272-1787. The fax phone number for the organization (where this application is assigned to) is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system at <http://pair-direct.uspto.gov>. Should you have questions on access to the PAIR system, contact the Electronic Business Center at (866) 217-9197.

CL

  
David Nelms  
Supervisory Patent Examiner  
Technology Center 2800

Date: August 2, 2005